

REMARKS

Prior to the present amendments, Claims 1-66 were pending in the application. Claims 1-66 have been rejected and claims 14-16 have been objected to.

Amendments

Claims 4 and 8 have been cancelled to expedite prosecution without prejudice to further prosecution on the merits.

Claims 14-16 have been amended to recite the presence of pH-lowering agent in an amount “sufficient to lower pH to a value of from about...”

Claims 45, 48, 62 and 65 have been amended to change “muscle” to --meat-- for antecedent basis reasons.

Claims 51, 56-62 and 65 have been amended to depend from claim 50.

Claim 52 has been amended to depend from claim 51.

Claims 63 and 64 have been amended to depend from claim 62.

New claims 67-70 are presented, drawn to product and method embodiments wherein the meat is cooked. These claims are supported throughout the original specification, and particularly at page 2, lines 12-23. As noted throughout the specification, the present invention provides a meat product having a color association suitable for presentation to the consumer so that it will be acceptable for use as a meat portion ready for cooking, so that the dark-cutting meat does not need to be sold at vastly reduced prices.

It is respectfully submitted that these claim amendments do not introduce new matter.

Discussion of Rejections

Claims 4, 8, 48 and 63-65 have been rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, claims 4 and 8 were rejected as being identical in scope to claims 1 and 7, respectively. These claims have been cancelled to expedite prosecution.

Claims 48 and 63-65 were rejected as using terms that fail to have antecedent basis in claims from which they depend. The terms or dependencies of these claims have been amended per the Examiner's helpful suggestion. Additionally, the term "muscle" has been amended in claims 45 and 62 for the same reason.

Claims 14-16 have been objected to because of the following informalities: In each of claims 14-16, line 2, "from" should be changed to "to."

These claims have been amended to recite the presence of pH-lowering agent in an amount "sufficient to lower pH to a value of from about..."

Claims 1-6, 9-11, 12-25, 27, 34-36, 40, 41, 43, 50-52 and 54 have been rejected under 35 U.S.C. 102(b) as being anticipated by Calkins et al. (US 2002/0054941, pages 1-5).

The present claims are drawn to a meat product, comprising a meat obtained from a dark-cutting carcass having a grading pH; and, an amount of at least one pH-lowering agent sufficient to lower the grading pH of at least a portion of said meat. The claims additionally are drawn to a method for treating meat from a dark-cutting carcass. As defined in the specification at page 2, lines 1-4, a "dark-cutting carcass" is defined at the point in the meat preparation process where USDA quality and yield grading occurs, i.e. only after the carcass has gone into rigor mortis. A carcass cannot be defined as a dark-cutting carcass unless it meets two criteria: 1) it must be a post-rigor carcass and 2) it must have the undesired dark color at the time of evaluation (i.e. post-rigor).

Calkins describes treatment of a pre-rigor meat to enhance tenderness of the meat, and has nothing to do with whether a meat is from a dark-cutting carcass. The treatment composition of Calkins is applied before rigor mortis (prior to the time of determining the grading pH), and therefore cannot lower the grading pH of at least a portion of said meat.

It is respectfully submitted that the claims are therefore not anticipated by Calkins et al.

Claims 37-39, 42, 53 and 55 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Calkins et al.

The rejected claims are drawn to a method for treating meat from a dark-cutting carcass by contacting the meat with at least one pH-lowering agent sufficient to lower the grading pH or alter the grading color of at least a portion of the meat. Claims 37 and 53 identify specific pHs of the meat at the time of grading ("grading pH," i.e. prior to treatment), and not the pH of the meat at the end of the process. The rejected claims therefore identify the starting point of the pH of the dark-cutting meat, prior to contacting the meat with at least one pH-lowering agent. By the end of the presently claimed process, the pH of the meat is lowered and the meat is no longer dark.

Claims 38, 39, 42 and 55 recite specific acidulants and meat handling steps, all in the context of the method whereby a dark-cutting carcass is treated by contacting the post-rigor meat with at least one pH-lowering agent sufficient to lower the grading pH or alter the grading color of at least a portion of the meat.

As noted above, the object of Calkins is to treat pre-rigor meat to enhance tenderness of the meat, and Calkins does not contemplate treatment of post-rigor or dark dark-cutting carcasses at all. The distinction between these treatment times is underscored by Calkins, which specifically states in page 1, paragraph 5 that "there is an important difference between pre-rigor treatment and post-rigor treatment of meat."

The skilled artisan would have had no reason to modify the Calkins process to apply a treatment of any kind post-rigor. To the contrary, such a modification flies in the face of the teachings of Calkins that pre-rigor treatment is required to achieve the desired tenderness. Any modification of the Calkins method to correspond to the present claims would destroy the function of the process as taught by this reference.

Claims 7, 8, 26, 28, 33, 48, 49 and 56-60 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Calkins et al. in view of Komarik (3,526,521).

Komarik is cited for its teaching regarding the use of GDL and sodium erythorbate in the process of curing whole meats, and it is asserted that the skilled artisan would have used these chemicals in the treatment method of Calkins.

It is respectfully submitted that the combination of these references does not render the present claims obvious. Specifically, the rejected claims are drawn to a meat product, comprising a meat obtained from a dark-cutting carcass having a grading pH; and, an

amount of at least one pH-lowering agent sufficient to lower the grading pH of at least a portion of said meat, and also to a method for treating meat from a dark-cutting carcass by contacting the meat with at least one pH-lowering agent sufficient to lower the grading pH or alter the grading color of at least a portion of the meat.

As noted above, the object of Calkins is to treat pre-rigor meat to enhance tenderness of the meat, and Calkins does not contemplate treatment of post-rigor or dark dark-cutting carcasses at all. Thus, even if combined, the references would have taught the skilled artisan a product and a method whereby pre-rigor treatment is required to achieve the desired object of the primary reference. The present post-rigor treatment therefore cannot be said to be obvious in view of these references in combination.

Claims 29-32 and 45-47 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Calkins et al. in view of Nakao et al. (3,666,488).

Nakao is cited for its teaching regarding use of phosphate buffers.

More specifically, Nakao teaches stabilizing the meat color developed in meat products by the treatment with nitrates or nitrites by contacting the meat with a weakly acid aqueous solution having a specified pH and acid content. See claim 1. The use of phosphate buffer systems is mentioned at the top of column 3. Nakao therefore provides discussion about stabilizing an existing color, but provides no teaching or suggestion about treating a dark-cutting meat to alter the grading color.

Even if the chemical selections of Nakao were used in the process of Calkins as asserted in the Office Action, such a combination would not result in a product or method as presently claimed. As noted above, the object of Calkins is to treat pre-rigor meat to enhance tenderness of the meat, and Calkins does not contemplate treatment of post-rigor or dark dark-cutting carcasses at all. Thus, even if combined, the references would have taught the skilled artisan a product and a method whereby pre-rigor treatment is required to achieve the desired object of the primary reference. The present post-rigor treatment therefore cannot be said to be obvious in view of these references in combination.

Claim 44 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Calkins et al. in view of Tracy et al. (4,576,825) or Holdren et al. (5,736,186).

Claim 61 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Calkins et al. in view of Komarik, and further in view of Tracy et al. or Holdren et al.

Tracy and Holdren are cited in the above rejections for their teaching of use of encapsulated materials in curing meats. It is noted that these references provide no teaching or suggestion about treating a dark-cutting meat to alter the grading color of the meat.

Even if the chemical selections of Tracy and/or Holdren were used in the process of Calkins as asserted in the Office Action, such a combination would not result in a product or method as presently claimed. As noted above, the object of Calkins is to treat pre-rigor meat to enhance tenderness of the meat, and Calkins does not contemplate treatment of post-rigor or dark dark-cutting carcasses at all. Thus, even if combined, the references would have taught the skilled artisan a product and a method whereby pre-rigor treatment is required to achieve the desired object of the primary reference. The present post-rigor treatment therefore cannot be said to be obvious in view of these references in combination.

Claims 62-66 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Calkins et al. in view of Komarik, and further in view of Nakao et al.

It is respectfully submitted that these rejections even in combination would not result in a product or method as presently claimed. As noted above, the object of Calkins is to treat pre-rigor meat to enhance tenderness of the meat, and Calkins does not contemplate treatment of post-rigor or dark dark-cutting carcasses at all. Thus, even if combined, the references would have taught the skilled artisan a product and a method whereby pre-rigor treatment is required to achieve the desired object of the primary reference. The present post-rigor treatment therefore cannot be said to be obvious in view of these references in combination.

It is respectfully submitted that new claims 67-70 are especially patentable over the cited prior art. These claims are drawn to product and method embodiments wherein the meat is cooked. It has been found that cooking the treated dark-cutting meat provides a cooked meat with a color associated with cooked non-dark-cutting meat.

More specifically, cooked untreated dark-cutting meat typically looks less cooked than non-dark-cutting meat cooked to the same degree of doneness. For example, while non-dark-cutting meat cooked to a medium rare degree of doneness takes on a color typically associated with medium rare, dark-cutting meat cooked to a medium rare degree of doneness takes on a color associated with raw meat or meat cooked to a rare degree of doneness. Similarly, non-dark-cutting meat cooked to a well- done degree of doneness takes on a color typically associated with meat cooked to a well- done degree of doneness, dark-cutting meat cooked to a well-done degree of doneness takes on a color associated with meat cooked to a medium rare to medium degree of doneness. Thus, a treated, dark-cutting meat as presently claimed when cooked will take on approximately the appearance of non-dark-cutting meat cooked to the same degree of doneness.

The present invention therefore provides a meat product having a color association suitable for presentation to the consumer so that it will be acceptable for use as a meat portion ready for cooking, and further provides a cooked color profile that matches the expectation of the consumer. By use of the present invention, there is no need to sell dark-cutting meat at vastly reduced prices. Because of the superior performance of the present treated dark-cutting meat, the meat products and methods as claimed provide substantial value.

Conclusion

In view of the above remarks and amendments, it is respectfully submitted that the foregoing is fully responsive to the outstanding Office Action. Early favorable consideration of the above application is earnestly solicited. In the event that a phone conference between the Examiner and the Applicant's undersigned attorney would help resolve any issues in the application, the Examiner is invited to contact said attorney at (651) 275-9811.

Respectfully Submitted,

Date: August 28, 2008

By: 

Dale A. Bjorkman, Reg. No. 33,084

Kagan Binder, PLLC
Suite 200, Maple Island Building
221 Main Street North
Stillwater, MN 55082
Phone: 651-275-9811
Fax: 651-351-2954